



# “THE ROLE OF DIGITAL TECHNOLOGIES IN EARLY LITERACY DEVELOPMENT: HOME INFLUENCES AND PARENTAL MEDIATION”

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## ABSTRACT

Emerging research highlights the significant role of digital technologies in fostering young children's literacy development at home, including letter recognition, early writing, and understanding of print concepts (Edwards, 2013; Marsh et al., 2017). Neumann (2014) demonstrates that access to touch-screen tablets enhances children's emergent literacy skills, emphasizing the quality of digital experiences over screen time. The home environment, particularly parental mediation styles, socio-economic background, and digital literacy, shapes children's engagement with digital media (Kumpulainen & Gillen, 2017, 2019; Piotrowski, 2017). Research further suggests that children's digital practices interact with their offline activities, fostering creativity and agency in ways that support learning (Palaiologou, 2016). However, few studies have explored the creative and autonomous use of digital media in homes, signaling a critical gap in understanding children's agency in digital literacy. International research carried out in Finland focus on children's autonomy and playful engagement with technology are highly valued furthermore to “grow up digital” in different cultural contexts (Kumpulainen, 2018). The need for more sophisticated research into children's digital literacy is crucial as digital media becomes increasingly pervasive. Cultural, socio-economic, and political factors shape children's digital lives globally, underscoring the importance of nuanced, ecologically valid research methods. The findings of the related studies emphasize that early engagement with digital literacy practices at home, guided by parental support, can significantly enhance children's attitudes towards reading and learning, laying strong foundations for lifelong literacy development.

**KEYWORDS:** Digital Literacy, Digital Media, Literacy Practices, Child Interactions, Parental Support, Home Environment

## INTRODUCTION

Emerging research highlights the significant role of digital technologies in shaping young children's literacy practices at home. Studies suggest that interactions with digital devices, such as tablets, contribute to foundational literacy skills, including letter recognition, sound knowledge, early writing, and print concept understanding (Edwards, 2013; Marsh et al., 2017). Neumann's (2014) research on preschoolers in Australia emphasizes that quality digital experiences foster emergent literacy more effectively than the duration of use. Parents play a critical role in mediating children's digital literacy. Research by Kumpulainen and Gillen (2017, 2019) indicates that parental attitudes, mediation styles, and socioeconomic factors influence children's engagement with digital media.

### Understanding the Concept of Digital Literacy:

The concept of digital literacy extends beyond simply using software or operating digital devices. It encompasses a broad range of complex skills—cognitive, motor, sociological, and emotional—that are necessary to function effectively in digital environments. Key tasks associated with digital literacy include:

- **Reading instructions** from graphical displays in user interfaces.
- **Utilizing digital reproduction** to create new, meaningful content from existing materials.
- **Navigating nonlinear, hyper textual information** to

construct knowledge.

- **Evaluating the quality and validity of information** found online.
- Developing a **mature and realistic understanding of the rules** that govern cyberspace interactions.

This broader understanding of digital literacy can serve as a benchmark for assessing the quality of learners' performance in digital environments. To address these diverse aspects of digital engagement, the concept of digital literacy ought to be refined beyond traditional notions. The present paper proposes a comprehensive conceptual framework for digital literacy, integrating five key dimensions: photo-visual literacy, reproduction literacy, branching literacy, information literacy, and socio-emotional literacy.

- **Photo-visual literacy** involves the ability to interpret and create meaning from visual and multimedia content.
- **Reproduction literacy** refers to the skills required to generate new materials and ideas by remixing or repurposing existing digital content.
- **Branching literacy** is the capability to navigate and synthesize information from complex, non-linear digital environments.
- **Information literacy** encompasses evaluating the quality, reliability, and relevance of information encountered online.

- **Socio-emotional literacy** addresses the ability to interact responsibly and effectively with others in digital contexts, including understanding and managing online behaviors and emotions.

By adopting this holistic framework, scholars and developers can gain a more nuanced understanding of digital literacy. This approach not only measures the quality of learners' work in digital spaces but also enhances the design of user-oriented environments, fostering more effective communication and engagement in the digital age.

### Theoretical Frameworks for Understanding Digital Literacy Practices among Children:

The theoretical features of digital literacy practices among children highlight a multidimensional understanding of how young learners engage with digital technologies. According to Ng (2012), digital literacy includes three dimensions:

1. **Technical:** This involves possessing the necessary skills to operate digital tools and use ICT effectively for learning and everyday activities.
2. **Cognitive:** The ability to think critically when searching for, evaluating, and creating digital information.
3. **Socio-emotional:** The capacity to use the internet responsibly for communication, socialization, and learning purposes.

Also emphasizes that a key indicator of digital literacy is how individuals adapt to new or emerging technologies.

To gain a **contextually rich understanding** of children's digital literacy practices, it is crucial to consider how digital technologies integrate into their everyday lives, particularly in reading, writing, and communication, within their homes. Vygotsky (1978), insisted in his socio cultural approach which posits that learning is a social process mediated by cultural tools, including digital technologies.

### Socio cultural Perspective on Digital Literacy

- The **sociocultural view** of learning suggests that social practices and artifacts—such as digital devices—create a shared semiotic system that influences how children think and learn (Kumpulainen & Renshaw, 2007).
- **History and broader sociocultural contexts** provide meaning to children's digital literacy practices, shaping how they interact with technologies (Coiro et al., 2008; Lankshear & Knobel, 2011).

### Exploration of Digital Literacy Practices specifically within the Home Environment:

Children's digital literacy practices are relational and situational, influenced by the environments in which they operate (Kumpulainen & Lipponen, 2010). From a sociocultural perspective, interactions with parents and others at home significantly shape these practices (Neumann, 2014).

Social contexts provide different rules, objectives, and interactions that mediate children's learning opportunities

(Sairanen & Kumpulainen, 2014). Additionally, children's agency and power relations play crucial roles in how they engage with digital media (Rainio, 2010; Rajala et al., 2016). Kucirkova and Flewitt (2018) describe agency as the ability to make choices, engage actively with digital features, and negotiate identity through media.

Green's (1988) three-dimensional model of literacy incorporates a four-dimensional framework to explore digital literacy: operational, cultural, critical, and creative. The operational dimension covers competencies needed to decode and encode digital texts, while the cultural dimension pertains to understanding literacy as a cultural practice, including the use of modes and signs specific to various cultures. The critical dimension involves analyzing digital content and considering issues of power and safety. The creative dimension, an extension of the original model, emphasizes children's agency in creating and transforming digital content, highlighting novel and innovative interactions with technology (Kajamaa & Kumpulainen, 2019). Findings of the study revealed that the children's digital literacy practices in the home through this four-dimensional lens, aimed to analyze the practices of children's interactions with digital media. Further this research seeks to understand how these practices contribute to their literacy development and how they are shaped by their cultural and social environments

### CONCLUSION

Research suggests that children's digital practices interact with their offline activities, promoting creativity and agency in ways that support learning (Palaiologou, 2016). However, there remains a critical gap in understanding how children use digital media creatively and autonomously within the home setting. International research, particularly studies conducted in Finland, highlights the value of children's autonomy and playful engagement with technology, which are important for the concept of "growing up digital" across diverse cultural contexts (Kumpulainen, 2018). The increasing pervasiveness of digital media necessitates more sophisticated research into children's digital literacy. Cultural, socio-economic, and political factors shape children's digital experiences globally, underscoring the need for nuanced and ecologically valid research methodologies. The findings from related studies indicate that early engagement with digital literacy practices at home, supported by parental guidance, can significantly improve children's attitudes toward reading and learning, thereby establishing a strong foundation for lifelong literacy development. International reviews reveal that children's digital literacy opportunities are influenced by family context, parental mediation, and socio-economic backgrounds (Kumpulainen & Gillen, 2017, 2019). Piotrowski (2017) finds that parental mediation style whether restrictive or active directly impacts children's engagement with educational content.

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